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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jeff Kriz

Title: TWO-TIER WIRELESS SYSTEM FOR DISTRIBUTED CONTROL/COMMUNICATION

Docket No.: H16-17016 (256.012US1)

Serial No.: 08/941,963

Filed: October 1, 1997

Due Date: October 15, 2002

Examiner: Kwang B. Yao

Group Art Unit: 2664

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S/N 08/941,963



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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Jeff Kriz	Examiner:	Kwang B. Yao
Serial No.:	08/941,963	Group Art Unit:	2664
Filed:	October 1, 1997	Docket:	H16-17016 (256.012US)
Title:	TWO-TIER WIRELESS SYSTEM FOR DISTRIBUTED CONTROL/COMMUNICATION		

**APPELLANT'S BRIEF ON APPEAL**

Box AF  
Commissioner for Patents  
Washington, D.C. 20231

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Sir:

This Appeal Brief is presented in support of the Notice of Appeal filed on August 15, 2002 from the final rejection of claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 of the above-identified application, as set forth in the Final Office Action mailed May 15, 2002 and Advisory Action mailed July 26, 2002.

The Appeal Brief is filed in triplicate. Please charge the requisite fee of \$320.00 set forth in 37 C.F.R. § 1.17(c) to Deposit Account 19-0743. Please charge any required additional fees or credit overpayment to Deposit Account 19-0743.

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**APPELLANTS' BRIEF ON APPEAL**

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AMENDMENT RESPONSE UNDER 37 CFR § 1.111

Serial Number: 08/941,963

Filing Date: October 1, 1997

Title: TWO-TIER WIRELESS SYSTEM FOR DISTRIBUTED CONTROL/COMMUNICATION

Page 1

Dkt: H16-17016 (256.012US1)

### **Real Party in Interest**

The real party in interest, in addition to the above-named Applicant, is Honeywell, Inc., by virtue of an Assignment to Honeywell, Inc., recorded on October 1, 1997, at Reel 8743, Frame 0834-0835. Honeywell, Inc., is a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having an office and place of business at P.O. Box 524, Honeywell Plaza, MN12-8251, Minneapolis, Minnesota 55440.

### **Related Appeals and Interferences**

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in the present appeal.

### **Status of the Claims**

Claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 are pending in the application and have all been finally rejected. The rejected claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 are the subject of the present appeal.

There are no amendments to the specification pending, and none have been presented after the Final Rejection of May 15, 2002.

### **Summary of the Invention**

The invention defined in the claims on appeal is directed to a two-tier communication system. The system includes a controller 112 that is coupled to a first router 114. The router 114 includes a dual transceiver for communicating over one tier of a wireless network with other similar routers 116, 118, 120 and 122, and over another tier of the wireless network with low power sensing, control and actuator type devices 124, 126, 128, 130, 132, 134, and 136.

Device 130 is shown coupled to a third party device 131 (e.g., be a garage door opener), which provide information to be routed to the controller 112 via the network. Device 136 is coupled to a sensor 127, which is a low bandwidth control or actuator, such as a display, siren, horn or strobe light.

Routers, such as router 122, may also be coupled by a high bandwidth direct-wired connection to a keypad/display indicated at 123. The routers themselves may also contain high function devices, such as video cameras which require a high bandwidth for transmission of compressed video to a display 123.

The combination of routers and devices shown in Figure 1 comprises a security, control or monitoring system which can be used in a structure such as a home or business. It can also be applied to process control, where the devices comprise standard home, small business, commercial and industrial sensors, identification tags and actuators such as motion detectors, glass breakage, pressure, temperature, humidity and carbon monoxide sensors, as well as motors and switches that are each equipped with a transceiver. The devices are placed throughout a structure or area to be monitored, protected or controlled. Combinations of security and control can easily be configured for a home or business.

One or more of the devices 124, 126, 128, 130, 132, 134, and 136 may be a mobile asset such that the routers, which are strategically placed within an area, work in conjunction with the controller to monitor the position of the mobile asset(s). The transmission power of such mobile assets is very low such that it is likely that only one router will detect each device. The controller can then track the positions of the mobile assets based on which router is receiving the strongest transmissions.

The routers communicate with each other over a relatively high bandwidth, using unlicensed Industrial Scientific Medical (ISM) band spread spectrum signal processors or transceivers, such as those which operate in the 918 MHz, 2.4 GHz and 5.8 GHz bands of frequencies. The tier of routers provides a high bandwidth communication medium that is regulated by regulatory agencies, but not licensed. The tier of devices operates at low power using low bandwidth by utilizing transceivers that are relatively inexpensive and operate at short range (e.g., 3 to 6 meters). In addition, the transceivers operate at unlicensed frequencies, such as 300 or 433 MHz, which are also not directly licensed.

Routers are placed strategically within the structure to receive transmissions from proximately located first tier devices. The routers forward the device transmissions (potentially through other routers in the second tier) to the controller. Information and commands from the controller are likewise routed back through the tier of one or more routers to the devices.

A low power device 212 is shown in Figure 2. The device 212 may be a motion detector, glass breakage, pressure, temperature, humidity and carbon monoxide sensor, or an actuator for control of motors and lights among other functions. The device 212 is coupled to a logic circuit 214 and a low power, low distance transceiver 216 that may be powered by a battery 218, such as a standard 1.5 to 3 volt battery.

A router 310 is shown in Figure 3. Router 310 includes a dual transceiver 312, which receives and transmits on the first tier network at the frequency of transceiver 216 to provide communications to and from multiple devices. The first tier network uses a standard communications protocol, such as a TDMA or carrier sense type of network.

Transceiver 312 also transmits and receives information to and from other routers. A power supply 316 provides much more power than the battery 218 in device 210. Router 310 may also include a higher function device 318 that either requires more power than can easily be provided by battery, or requires higher data throughput which can only be conveniently provided by a router 310.

#### **Issues Presented for Review**

1. Whether claim 39 is patentable under 35 USC § 102(b) over Dilworth et al. (U.S. 5,479,400).
2. Whether claims 1-3, 5-11 and 13-17 are patentable under 35 USC § 103(a) over Dilworth et al. in view of Carvey (U.S. 5,699,357).
3. Whether claims 26-28 are patentable under 35 USC § 103(a) over Dilworth et al. in view of Parken (U.S. 5,010,583).
4. Whether claim 30 is patentable under 35 USC § 103(a) over Parken in view of Carvey.
5. Whether claims 31-35 are patentable under 35 USC § 103(a) over Parken in view of Carvey, and further in view of Dilworth et al.

### Grouping of Claims

Claims 1, 3 and 5-9 are grouped together. Claims 10 and 13-17 are grouped together. Claims 26-28 are grouped together. Claims 30 and 32-35 are grouped together. All other claims are independent of each other, and each stands alone for purposes of this appeal.

### Argument

#### Rejection Under 35 U.S.C. § 102

##### **1) *The Applicable Law***

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *M.P.E.P. '2131*. To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter. *PPG Industries, Inc. V. Guardian Industries Corp.*, 75 F.3d 1558, 37 USPQ2d 1618 (Fed. Cir. 1996). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

##### **2) *Discussion of the Rejection of the Claims Under 35 U.S.C. § 102(b) as being anticipated by Dilworth et al.***

The Examiner rejected claim 39 under 35 USC § 102(b) as being anticipated by Dilworth et al. (U.S. 5,479,400). As part of the rejection of claim 39, the Examiner states that "Dilworth et al. discloses a repeater for microcellular digital packet communication system comprising the following features: a plurality of data terminals, each data terminal, such as the terminal 123 in Fig. 1 coupled to a low power transceiver 122 for transmitting data signals at a low power and receiving signals; a plurality of repeaters 100, 101,..., and relay 140, 141, each repeater or replay capable of wireless communication at a higher power level with other repeater or relay; central office switch for controlling the relays and for receiving data signals." *Final Office Action*, p. 2, ¶2.

Claim 39 is written in means-plus-function format. As such, it covers the structure described in the specification that performs the function, and equivalent structures. Dilworth et

al. show and describe a microcellular telephone network with mobile transceivers. In the current application, the "means for transmitting information at a low power" of claim 39 corresponds to the structure described in the specification at page 4, lines 9-13: "The devices comprise standard home, small business, commercial and industrial sensors, identification tags and actuators such as motion detectors, glass breakage, pressure, temperature, humidity and carbon monoxide sensors, as well as motors and switches controlling automated systems, each equipped with a transceiver." Such devices or sensors are also described as operating in unlicensed frequencies at low power using "a low power, short range, single chip transceiver operating at unlicensed frequencies." See specification at page 4, lines 4-5.

This is a precise definition that clearly is not the same as the mobile cellular transceivers of Dilworth et al. The cellular devices in Dilworth et al. operates at significantly higher power than the low power devices described in the current application. This difference is demonstrated by the fact that the low power frequencies utilized by the low power devices referred to in the application do not need to be licensed because they do not interfere with other such low power devices unless they are located very close together. The detailed description indicates that the range of the low power devices is 3-6 meters. The Dilworth et al. transceivers operate over several miles such that they could not function properly if they operated at the low power levels used by the low power devices described the current application.

Applicant can not find in Dilworth or the Examiner's rejection "a plurality of means for transmitting information at a low power and receiving information" in combination with "a plurality of means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information" as recited in claim 39. There is no teaching or suggestion in Dilworth et al. that any of the disclosed transceivers or repeaters operate at a low power level with low power devices and at a high power level with other routers. Applicant can not find any disclosure in Dilworth et al. relating to power levels. Since Dilworth et al. does not show each and every element, the rejection should be withdrawn.

**Rejections Under 35 U.S.C. § 103*****I) The Applicable Law***

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The court in *Fine* stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so."

*Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Appellant's disclosure.

*M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). At the same time, however, although it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art

will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979)).

The Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Mere conclusory statements are unsatisfactory.

“With respect to Lee’s application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner’s conclusory statements that ‘the demonstration mode is just a programmable feature which can be used in many different devices for providing automatic introduction by adding the proper programming software’ and that ‘another motivation would be that the automatic demonstration mode is user friendly and it functions as tutorial’ do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill in the art would have been lead to this combination of references, simply to use ‘[use] that which the inventor taught against its teacher.’ *W.L. Gore V. Garlock, Inc.*, 721 F. 2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).” *Lee*, at 1343, 1344.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). Furthermore, claims must be interpreted in light of the specification, claim language, other claims and prosecution history. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987), *cert. denied*, 481 U.S. 1052 (1987). At the same time, a prior patent cited as a § 103 reference must be considered in its entirety, “i.e. as a whole, including portions that lead away from the invention.” *Id.* That is, the Examiner must, as one of the inquiries pertinent to any obviousness inquiry under 35 U.S.C. § 103, recognize and consider not only the similarities but also the critical differences between the claimed invention and the prior art. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir. 1990). Finally, the Examiner must avoid hindsight. *Id.*

**2) *Discussion of the Rejection of claims 1-3, 5-11 and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Dilworth et al. in view of Carvey (U.S. 5,699,357)***

Claims 1-3, 5-11 and 13-17 were rejected under 35 USC § 103(a) as being unpatentable over Dilworth et al. in view of Carvey (U.S. 5,699,357). A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Dilworth et al. and Carvey do not teach or suggest each and every element of the claimed invention, and there is no suggestion to combine them.

**I. Dilworth et al. and Carvey do not teach every element of claims 1, 3, 5-9, 10 & 13-17**

Dilworth et al. teach operating transceivers and repeaters over long distances at the same high power level (see, e.g., signals A, B and F in Fig. 1 of Dilworth et al.). Carvey is directed to a personal digital assistant (PDA) that communicates with a number of personal electronic accessories (PEAs) using "low duty cycle pulsed operation" (see Carvey abstract; col. 1, lines 4-8 and 54; and col. 2 lines 17-30). Carvey is similar to Dilworth in that they both do not teach or suggest a router that operates at a low power level with low power devices and at a high power level with other routers. The present invention uses very low power devices in combination with routers that operate with the low power devices and other high power routers to allow the low power devices to be located further from a controller.

Therefore, applicant can not find Dilworth and/or Carvey "a plurality of devices, each device coupled to a low power transceiver that transmits over a short range" in combination with "a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes" as recited in claim 1.

In addition, the combination of Dilworth and Carvey does not disclose "a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range" in combination with "a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers" as recited in claim 10.

## **II. There is no motivation or suggestion to combine Dilworth et al. and Carvey**

Dilworth et al. describes a wireless digital microcellular communication system (see Abstract) that sends and receives high power cellular signals through a combination of wireless and wired systems over extremely long distances. Carvey requires in the Summary that: "The data network of the present invention utilizes the fact that the server microcomputer unit and the several peripheral units which are to be linked are all in close physical proximity, e.g., under two meters separation, to establish, with very high accuracy, a common time base or synchronization." In other words, Carvey expressly teaches away from any sort of combination of repeaters that are similar to the ones used in Dilworth et al. to cover extremely long distances because the devices in Carvey must be in close physical proximity. Thus, there is no suggestion to combine Carvey et al. and Dilworth et al.

Applicant also respectfully submits that the Examiner has only provided a mere conclusory statement regarding a motivation to combine Dilworth and Carvey. The Examiner states at page 3, ¶4 of the Office Action, "[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to use the features, as taught by Carvey, in the system of Dilworth et al., in order to provide various applications such as monitoring temperature, see column 2, lines 2-13."

Applicant can not see where column 2, lines 2-13 of Dilworth et al. provide a motivation to use the "low duty cycle pulsed operation" of Carvey. The Examiner's statement is analogous to those made by the Examiner and Board in the recently decided case *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). See page 7, *supra*.

The Examiner's statement also fails to explain how Dilworth et al. would be modified by Carvey. Applicant is unsure how the systems disclosed Dilworth and Carvey could be physically and/or operationally combined. However, if the combination could somehow be made, the communication system in Dilworth would merely use the "low duty cycle pulsed operation" of Carvey instead of including a router that operates at a low power level with some devices and at a high power level with other routers.

**III. Dilworth et al. and Carvey do not teach every element of claims 2 & 11**

Claims 2 and 11 recite “wherein the low power transceiver has a lower data bandwidth capability than the bandwidth of the communication between router(s)” which is not found in either of the references, nor is it described in the Office Action as being contained in the references. Thus, there is a lack of specificity in the Office Action, and further a lack of teaching in the references such that the rejection of claims 2 and 11 should be reversed.

**3) Discussion of the Rejection of Claims 26-28 under 35 U.S.C. § 103(a) as being unpatentable over Dilworth et al. in view of Parken (U.S. 5,010,583)**

Claims 26-28 were also rejected under 35 USC § 103(a) as being unpatentable over Dilworth et al. in view of Parken (U.S. 5,010,583). A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Dilworth et al. and Parken do not show each and every element of the claims, and there is no proper suggestion found to combine Dilworth et al. and Parken.

**I. Dilworth et al. and Parken do not teach every element of claims 26-28**

Dilworth et al. disclose a digital cellular communication system that delivers the same high power cellular signals between transceivers, routers, relays and wired systems (see, e.g., signals A, B and F in Fig. 1 of Dilworth et al.) over long distances. Dilworth et al. do not teach or suggest any router that (i) transmits and receives information with other routers at a high power level; and (ii) transmits and receives information with other low power devices at a low power level.

Parken is directed to a portable or mobile communication unit 130 that includes a wide area coverage multiple repeater system. Parken is similar to Dilworth in that Parken does not teach or suggest a router that operates with other routers at a high power level and other devices at a low power level. The only disclosure in Parken related to power levels is at column 2, line 67 through column 3, line 1 which describes monitoring the received signal strength in a cellular network.

Therefore, even if Dilworth and Parken are combined, applicant can not find “a second

router node having a first receiver for receiving low power transmissions of physical condition related information from a plurality of devices located proximate the second router node, a second receiver for receiving high bandwidth transmissions from other routers in the system, and a first transmitter coupled to the first and second receivers that transmits information from the plurality of devices at a relatively high power to the first router node” as recited in claim 26.

## **II. There is no motivation or suggestion to combine Dilworth et al. and Parken**

The Examiner has only provided a mere conclusory statement regarding a motivation to combine Dilworth and Parken. The Examiner states “[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Dilworth et al., by using the features, as taught by Parken, in order to reduce the possibilities of transmission collisions. See column 1, lines 20-22.” *Final Office Action*, p. 4, ¶5.

Applicant can not see where column 1, lines 20-22 of Dilworth et al. provide a motivation to use the wide area coverage multiple repeater system of Parken. The Examiner’s statement is again analogous to the conclusory statements made by the Examiner and Board in the recently decided case *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). See page 7, *supra*.

The Examiner’s statement also fails to explain how Dilworth would be modified by Parken. Applicant can not see how the Parken repeater system could be placed in the Dilworth cellular communication system, especially to produce a system that includes a router node which operates at a high power level with other router nodes and at a low power level with other low power devices as recited in claim 26.

As part of the *Response to Arguments* on page 6 of the Final Office Action, the Examiner states “[I]t is well known in the art that the lap top computer data terminal 123 in Dilworth et al. utilizes a low power transmission by using a low power battery.” Applicant can not find support for the statement in any of the cited references. Computer data terminal 123 in Dilworth et al. transmits and receives signals with repeaters 100, 101, 102 using high power cellular signals (see, e.g., signals A, B and F in Fig. 1 of Dilworth et al.) that are used throughout the digital cellular system.

**4) *Discussion of the Rejection of Claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Parken in view of Carvey***

Claim 30 was also rejected under 35 USC § 103(a) as being unpatentable over Parken in view of Carvey. A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Parken and Carvey do not show each and every element of the claims, and there is no proper suggestion found to combine Parken and Carvey.

**I. Parken and Carvey do not teach every element of claim 30**

As discussed above, Parken is directed to a portable or mobile communication unit 130 that includes a wide area coverage multiple repeater system, and Carvey is directed to a PDA, communicating with a number of personal electronic accessories using “low duty cycle pulsed operation.” Carvey and Parken are similar in that they do not teach or suggest a router that receives low power transmissions from a plurality of devices and high bandwidth transmissions from other routers.

Therefore, even if Parken and Carvey are combined, applicant can not find a router that includes “a first transceiver that receives low power transmissions of information from a plurality of devices located proximate the router node” in combination with “a second transceiver that receives high bandwidth transmissions from other routers in the system, wherein the second transceiver further transmits information from the plurality of devices at a higher power level than the received low power transmissions” as recited in claim 30.

**II. There is no motivation or suggestion to combine Parken and Carvey**

The Examiner has only provided a mere conclusory statement regarding a motivation to combine Parken and Carvey. The Examiner states, “[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to use the features, as taught by Carvey, in the system of Parken in order to provide various applications such as monitoring temperature, see column 2, lines 2-13.” *Final Office Action*, p. 4, ¶6.

Applicant can not see where column 2, lines 2-13 of Parken or Carvey provide a motivation to use the “low duty cycle pulsed operation” of Carvey in the wide area coverage

multiple repeater system of Parken. The Examiner's statement is similarly analogous to the conclusory statements made by the Examiner and Board in the recently decided case *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). *See page 7, supra.*

The Examiner's statement also fails to explain how Parken would be modified by Carvey. Parken describes a wide area coverage multiple repeater system while Carvey et al. requires "several peripheral units which are to be linked are all in close physical proximity, e.g., under two meters separation, to establish, with very high accuracy, a common time base or synchronization." In other words, Carvey expressly teaches away from any type of repeater system because the devices must be in close physical proximity to function properly (i.e., to keep proper time synchronization). Thus, there is no motivation to combine Carvey and Parken.

In addition, altering the multiple repeater system of Parken to include the close proximity PDA of Carvey would destroy the stated purpose of Parken to "provide communication coverage to a substantially wide area." Parken at column 1, lines 11-12. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP 2143.01.

**5) *Discussion of the Rejection of Claims 31-35 under 35 U.S.C. § 103(a) as being unpatentable over Parken in view of Carvey, and further in view of Dilworth et al.***

Claims 31-35 were also rejected under 35 USC § 103(a) as being unpatentable over Parken in view of Carvey, and further in view of Dilworth et al. Claims 31-35 depend claim 30 such that claims 31-35 incorporate all of the limitations of claim 30. *A prima facie* case of obviousness has not been established for at least the following reasons: The combination of Parken, Carvey and Dilworth et al. do not show each and every element of the claims, and there is no proper suggestion found to combine Parken, Carvey and Dilworth et al.

**I. Parken, Carvey and Dilworth et al. do not teach every element of claims 31-35**

As mentioned above, (i) Dilworth et al. disclose a cellular communication system that delivers the same high power cellular signals between transceivers, routers, relays and wired systems over long distances; (ii) Parken is directed to a portable or mobile communication unit

130 that includes a wide area coverage multiple repeater system; and (iii) Carvey discloses a PDA communicating with a number of personal electronic accessories using “low duty cycle pulsed operation.” Dilworth, Parken and Carvey do not teach or suggest either singularly, or in combination, a router that receives signals from other routers at high power levels and receives signals from other low power devices at low power levels.

Therefore, even if Parken, Carvey and Dilworth et al. are combined, the combination does not teach or suggest “a first transceiver that receives low power transmissions of information from a plurality of devices located proximate the router node” in combination with “a second transceiver that receives high bandwidth transmissions from other routers in the system, wherein the second transceiver further transmits information from the plurality of devices at a higher power level than the received low power transmissions” as recited in claim 30 and corresponding dependent claims 31-35.

In addition, claim 31 recites “wherein the second transceiver operates at an unlicensed spread spectrum frequency range” which is not found in any of the references, nor is it described in the Office Action as being contained in the references. Thus, there is a lack of specificity in the Office Action, and further a lack of teaching in the references such that the rejection of claim 31 should be reversed.

## **II. There is no motivation or suggestion to combine Parken, Carvey and Dilworth et al.**

The Examiner has only provided a mere conclusory statement regarding a motivation to combine Parken, Carvey and Dilworth et al. The Examiner states, “[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Parken and Carvey, by using the features, as taught by Dilworth et al., in order to provide a secure data transmission system.” *Final Office Action*, p. 5, ¶7. The Examiner’s statement is also analogous to the conclusory statements made by the Examiner and Board in the recently decided case *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). *See page 7, supra.*

The Examiner’s statement also fails to explain how Dilworth et al. could be combined with Parken and Carvey. As discussed above, applicant can not see how the PDA disclosed in Carvey, which needs to be in close proximity to a number of personal electronic accessories to

operate, could be incorporated into a portable communication unit that includes a wide area coverage multiple repeater system as disclosed in Parken.

However, even if Parken and Carvey could be combined to produce such a device, applicant can not see how a digital cellular communication system that delivers high power cellular signals over several miles as disclosed in Dilworth et al. could be incorporated into the resulting device. This even further modified device would destroy the stated purpose of Carvey to link several peripheral units in close physical proximity "to establish, with very high accuracy, a common time base or synchronization. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP 2143.01.

### CONCLUSION

Applicant believes the claims are in condition for allowance and requests withdrawal of the rejections to claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39. Reversal of the Examiner's rejections of claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 in this appeal is respectfully requested.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Box AF, Commissioner of Patents, Washington, D.C. 20231, on this 15th day of October, 2002.

Anne M. Richards

Name

Signature





## APPENDIX I -- CLEAN VERSION OF PENDING CLAIMS

1. A system comprising:
  - a plurality of devices, each device coupled to a low power transceiver that transmits over a short range, and receives information, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers;
  - a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes; and
  - a controller coupled to at least one router node for receiving device information, wherein the router nodes transmit device information either to the controller or to another router for further transmission of the device information.
2. The system of claim 1 wherein the low power transceiver has a lower data bandwidth capability than the bandwidth of the communication between router nodes at the higher power level.
3. The system of claim 1 wherein at least one of the devices further comprise a battery for supplying power to the low power transceiver.
5. The system of claim 1 wherein one of the routers is hardwired to a device which generates high bandwidth information.
6. The system of claim 1 wherein the controller is coupled between a telephone wiring network in a structure and external telephone lines.
7. The system of claim 6 and wherein the controller is capable of intercepting touch tones transmitted on the telephone wiring network in the structure and interpreting them as controller commands.

8. The system of claim 7 wherein the controller transmits information via the routers to devices in accordance with the touch tone commands.
9. The system of claim 1 wherein the controller further comprises circuitry to receive transmissions representative of controller commands from a wireless telephone.
10. A monitoring system comprising:
  - a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range, provided by the device, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers;
  - a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers; and
  - a controller communicatively coupled to a router.
11. The system of claim 10 wherein the low power transceiver has a lower data bandwidth capability than the bandwidth of the communication between routers.
13. The system of claim 10 wherein one of the routers is hardwired to a device which generates high bandwidth information.
14. The system of claim 10 wherein the controller is coupled between a telephone wiring network in a structure and external telephone lines.
15. The system of claim 14 and wherein the controller is capable of intercepting touch tones transmitted on the telephone wiring network in the structure and interpreting them as controller commands.

16. The system of claim 15 wherein the controller transmits information via the routers to the device in accordance with the touch tone commands.

17. The system of claim 10 wherein the controller further comprises circuitry to receive transmissions representative of controller commands from a wireless telephone.

26. A network of router nodes communicatively coupled to a central controller of a security monitoring system, the network comprising:

a first router node hardwired into the central controller;

a second router node having a first receiver for receiving low power transmissions of physical condition related information from a plurality of devices located proximate the second router node, a second receiver for receiving high bandwidth transmissions from other routers in the system, and a first transmitter coupled to the first and second receivers that transmits information from the plurality of devices at a relatively high power to the first router node.

27. The network of claim 26 and further comprising a plurality of further router nodes located proximate to a further plurality of devices transmitting at low power.

28. The network of claim 27 wherein at least some of the plurality of further router nodes transmit information from the proximate devices to the first router node.

30. A router node in a physical condition monitoring system, the router node comprising:  
a first transceiver that receives low power transmissions of information from a plurality of devices located proximate the router node, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers; and

a second transceiver that receives high bandwidth transmissions from other routers in the system, wherein the second transceiver further transmits information from the plurality of devices at a higher power level than the received low power transmissions.

31. The router node of claim 30 wherein the second transceiver operates at an unlicensed spread spectrum frequency range.

32. The router node of claim 31 wherein the frequency range is selected from the group consisting of 900 MHZ, 2.4 GHz, and 5.8 GHz.

33. The router node of claim 30 and further comprising a device which is hardwired directly to the router node for direct communication of high bandwidth information.

34. The router node of claim 33, wherein the hardwired device comprises a video camera.

35. The router node of claim 34, wherein the router node transmits high bandwidth compressed video to other routers at the higher power level.

39. A system comprising:

a plurality of means for transmitting information at a low power and receiving information;

a plurality of means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information; and

means for controlling the plurality of means for being located proximate to and receiving device information.